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PMO Automation Tool Assessment and Recommendation

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0 Document Control

0.1 Document History

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0.2 Changes From Last Issue

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0.3 Distribution List

1 Executive Summary

This study provides an evaluation and recommendation for an Automation tool for MoICT Program Management Office. After performing a gap analysis, examining the current PMO structure and processes, and reviewing the marketplace for PMO automation tools, several recommendations can be made. The strategic question for an automation tool relates to how Project Managers are to control their projects and easily interact with the PMO. The suggestions for PMO automation are:

1. It does not make sense to implement an automation tool that only involves the PMO and not include Project Managers. The key component revolves around improving the quality and timing of project reporting from Project Managers to the PMO within any organizational units of the GoJ. This capability will allow for consolidation of systems efforts across agencies ultimately saving the GoJ large sums in software development and procurement. Thus it is urged that the needs of the PMO internally be a secondary factor to the reporting and management needs of the Project Managers.
2. There is inherent risk is making a determination to implement a PMO automation tool at this time. The PMO is currently implementing customized procedures and templates that have not yet had a chance to be evaluated. A wiser decision can be made in the future after procedures have been tested and analyzed.
3. A purely strategic decision could be made to implement a Full-Service COTS PMO Automation System to support the Project Managers and the PMO. The system could be immediately implemented and would force users to use best-practice procedures built into the system. The downside is that the custom-built EDS procedures and templates could not be used. However, the substance of the EDS best-practice procedures is generally incorporated into most Full-Service Tools. The risk involved in this approach is that failure could impact the PMO's ability to operate. This solution can be implemented by either implementing software locally or using a solution hosted by the vendor that would allow for a cost-effective pilot test.
4. Another alternative is to implement a COS Collaboration Tool that is customizable. This could be run as a pilot project with customization built in stages as desired. This option is not recommended as these packages contain few PMO capabilities out of the box and it is anticipated that development cost to build PMO functions would be expensive compared to the Full-Service PMO Packages. The end result for the money would be inferior to the Full-Service solution. This option should only be considered in the unlikely event that the cost of software and associated labor is very low and the objective is to iteratively "prototype" solutions for the PMO.

In summary, the recommendation is to defer the decision of implementing an automation tool until the PMO operation stabilizes. With more concrete knowledge, a more logical alternative can be chosen and a suitable system can be selected with full knowledge of operational issues and challenges. However, the GoJ may decide that it is imperative to create an automated project reporting framework. In that case, it would be best to choose the Full-Service COTS package alternative as Project Managers and the PMO would immediately gain the benefits of standardized procedures and reporting structures. A customized approach using a Collaboration

Tool, would provide some benefit, however, the final solution would unlike provide the utility of the Full-Service tool, would cost more, and carry the additional risks of building customized software.

This study contains a high level summary of some of the packages that could be used for each of the alternative presented. A full scale full-scale market review should be performed only after one of the automation paths described is this study is selected. That market study could then concentrate only on the packages that relate to the alternative chosen. It is also noted that any decision be taken into consideration with GoJ capital planning. Any solution should fully look at GoJ resources to determine the objectives and how the solution achieves those objectives versus all alternatives.

2 Background

The AMIR program is assisting the MoICT in the creation of a Program Management Office (PMO) as the focal point to provide support and capability that enables the coordination of management, implementation, interoperability and integration of the national E-Government initiative. The PMO will use its subject matter expertise to support other GoJ ministries and communicate the standards and methodologies related to project management to ensure consistency in operations among project teams. The objectives of the PMO can be summarized as:

- Select and coordinate a substantial national portfolio of e-Government initiatives that maximizes benefits for Jordan
- Oversee technology integration and interoperability of e-Gov initiatives to reduce overall costs
- Promote and enforce a 'system view' of e-Gov initiatives
- Enhance the management of projects towards maximizing the success of e-gov initiatives

Establishing a fast-paced and complex program of coordination requires significant technical assistance from outside the MoICT. To coordinate the various E-government projects throughout the Government of Jordan (GoJ) and to establish process and technical standards to assure integration, interoperability, and successful implementation, a project management support tool capability is proposed to assist the PMO.

This document provides an analysis for the following:

- A needs assessment for PMO automation
- Assessment of readiness for the PMO to automate its processes
- High level evaluation of off-the-shelf solutions, capabilities, and costs.
- High level scoping and direction for next possible steps in PMO automation.

3 Requirements

Part of achieving the main objective of this study is to provide a requirement analysis for a Program Management Automation Tool that will assist the PMO in achieving their objectives by automating and managing key PMO functions:

- Monitor the progress of e-gov initiatives
- Provide reports on progress, costs, and benefits on the portfolio of e-gov projects
- Capture the benefits and related metrics of implemented solutions
- Define and report technical standards and guidelines
- Provide an overall "dashboard" of e-gov projects
- Communicate key messages and indicators for e-gov initiatives
- Help identify potential e-gov initiatives and manage selection process of e-gov initiatives

The requirements for the PMO Automations Tool can be further defined by analyzing the roles and interactions of the key players involved in performing and managing the above functions.

3.1 PMO Role

A PMO organizational structure has been configured to specifically delineate responsibilities for these functions. The PMO organization consists of several important roles managing the PMO processes and procedures:

- Head of PMO (PMO-H)
- Head of Technology Services (HoTS)
- Business Case Manager (BCM)
- Head of Change Management (CM)
- Quality, Risk and Communications Manager (QRC)
- Projects Coordinator (PC)

Annex 1 contains an overview of the roles of these people within the PMO. With a variety of roles in the PMO, it can be seen that it is very important that all the players have current and correct project information at an individual as well as an aggregate project level. Therefore, a key consideration in proposing any automation tool should be centered on providing a collaborative operational environment for all concerned participants.

The current operational model for the PMO, as designed by EDS, is a template-based process requiring the development of standard documents and reports through the life of the project. This process operates through an exchange of electronic documents. A defined directory structure on a common file server is used to store the required documents. Communication between participants happens mostly through Email

(note: currently Email does not exist at the Ministries) and the sharing of these documents, though other informal methods of communication are expected.

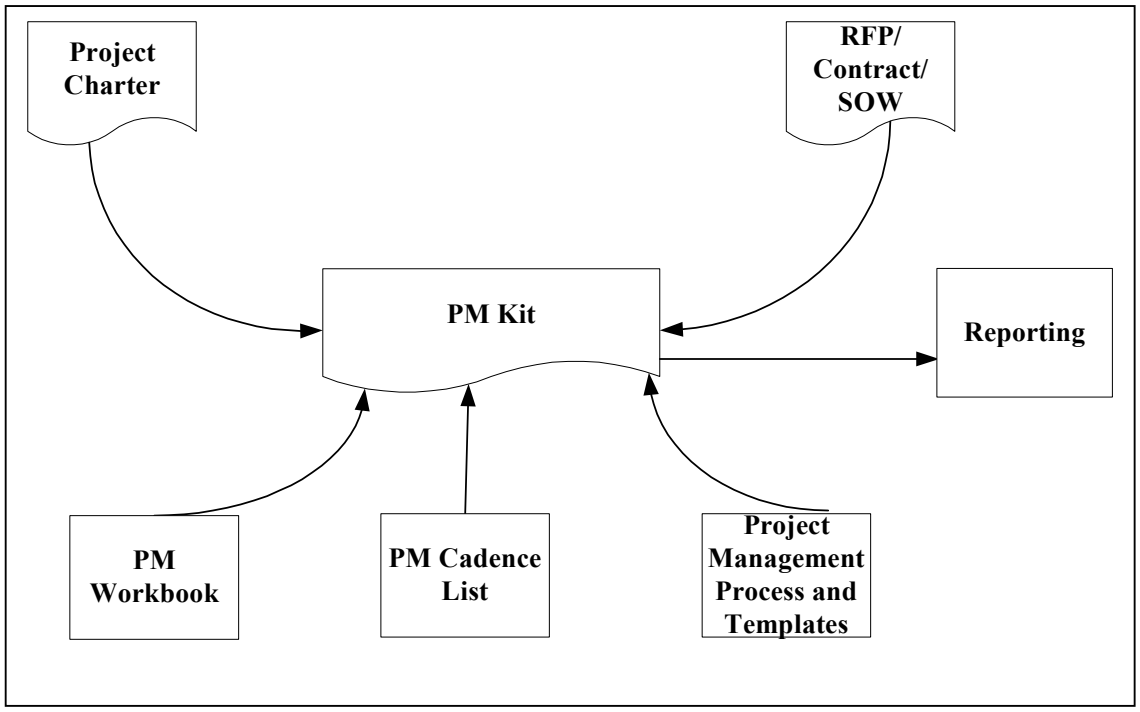
3.2 Project Manager Role

The person that is directly responsible for day-to-day oversight and management of an e-gov project is the Project Manager (PM). This Project Manager generally resides at the ministry that is the client for the project. This Project Manager may be a government employee, but in some cases, it may actually be a contractor. This role is not to be confused with the Project Coordinator (see PC above). While both the PM and PC are concerned with day-to-day project activities, the PM represents their respective ministry, while the PC represents the PMO. Major objectives of a automation tool include providing automated project management support tools for the PM as well as defining a structured project management methodology for the PMs. These functions need to support both the government-PMs as well as any contractor-PMs

The key relationship between the PM and the PMO is the reporting of project status by the PMs to the PMO (see Annex 2 for details). The current method of communication between the PMs and the PMO is through the sharing of standardized documents that are stored on a shared file server on a structured directory environment. Communication between the PMs and the PMO is through e-mail, meetings and some informal methods. It is understandable that automating the communication of project status from the PM to the PMO would provide clear benefit.

3.3 PMO Processes and Procedures

EDS has developed the concept of the PM Kit. The PM Kit is designed to provide Project Managers with comprehensive tools and guidance to run and manage e-gov projects. The PM Kit provides a standardized structure with documented processes for managing e-gov initiative. Also, it contains templates for required documentation that is needed to track the status of projects. The documentation from the PM Kit provides a comprehensive set of functional requirements that would be needed in an automation tool. As an overview, the PM Kit consists of the following components:



- Documents
  - Project Charter
    - Authorizes a project, it includes the following or a reference to: Business Case, Scope of Work, Deliverables, Schedule, Resources, Cost, Assumptions, Constraints
  - RFP/Contract/SOW
- Guidance
  - PM Cadence List
    - Provides e-government Project Managers with a list of activities that must be performed through the life of the project
  - PM Workbook
    - Provides e-government Project Managers with guidance on how to maintain project documentation to suite project management activities.
  - Project Management Processes and Templates
    - Provides e-government Project Managers with a set of Project Management standard processes and tools to be used in initiating, planning, executing, controlling and closing e-government projects activities to meet project requirements
    - Provides Project Managers with guidance on managing e-government projects from PMO perspective
    - Provides Project Managers with a set of things they are required to be engaged in to guarantee successful completion of projects
  - Reporting

- Maintains effective projects reporting cycle between all Project Managers and the PMO, through:
  - Providing the PMO with the required documents at the kickoff of the project
  - Providing the PMO with regular progress reports
  - Providing the PMO with other project management documentation

The PM Kit provides a huge benefit to the project management process: (1) it provides a toolset that helps PMs record the status, plans, and issues related to their projects and (2) it defines standard processes and templates that ensure consistent reporting across all projects. Any automation tool considered should provide the same benefits of standard reporting and tools that support the process.

3.4 Functional Requirements

Since the PM Kit and the PM Workbook document the required PMO processes and procedures, as well as required documents that support these processes, this analysis utilizes these documents as a primary source of functional requirements that would be available in an automation tool. This documentation provide e-government Project Managers with a set of standard processes and tools to be used in initiating, planning, executing, controlling and closing e-government projects to meet project requirements. Further, they provide Project Managers with guidance on managing e-government projects and specify actions they are required to be engaged in to guarantee successful completion of projects. Since these template-driven processes are designed specifically to achieve the PMO's objectives, they represent the management tasks and reporting requirements that should be supported by an automation tool.

The following list is an inventory of requirements specified for the PMO processes that have been identified to date. One would expect these requirements to be undergoing change and certainly not expected to be fully inclusive in any off-the-shelf package. Various automation tools provide capabilities at vastly different levels and with various degrees of customization. The functional requirements (from the PM Kit) that should be evaluated for a PM automation tool are listed below:

1. Business Case
   1.1. Business Case Document
2. Scope Mgt
   2.1. Processes and Templates
      2.1.1. GOJ Scope Management Plan
      2.1.2. GOJ Change Control Process
      2.1.3. Project Charter Template
      2.1.4. Change Request Template

- 2.1.5. Notice of Decision Template
- 2.2. Scope Control
  - 2.2.1. Scope Plan
  - 2.2.2. Project Summary
  - 2.2.3. Project Scope Statement
  - 2.2.4. Project Scope of Work
  - 2.2.5. Project Requirements
  - 2.2.6. Project Approach
  - 2.2.7. Project Standards and Procedures
  - 2.2.8. Project Charter
  - 2.2.9. WBS Chart
  - 2.2.10. WBS Dictionary
  - 2.2.11. Deliverables List
  - 2.2.12. Assumptions/Constraints
- 2.3. Change Control
  - 2.3.1. Change Request
  - 2.3.2. Change Request Summary Log
  - 2.3.3. Change Request Control Log
  - 2.3.4. Decision Note

3. Time Mgt
   - 3.1.1. Project Schedule
   - 3.1.2. Integrated Project Plan
4. Cost Mgt
   - 4.1.1. Cost Plan
   - 4.1.2. Budget
   - 4.1.3. Cost Tracking Sheet
   - 4.2. Processes and Templates
     - 4.2.1. GOJ Cost Management Plan
     - 4.2.2. Cost Plan Template
5. Quality Mgt
   - 5.1.1. Quality Plan
   - 5.1.2. Project Health Checks Sheets
   - 5.1.3. Corrective Actions Plan
   - 5.2. Processes and Templates
     - 5.2.1. GOJ Quality Management Plan
     - 5.2.2. Project Health Check Worksheet Corrective Action Plan Template
6. Human Resource Mgt

- 6.1.1. Project Organizational Breakdown Structure
- 6.1.2. Roles and Responsibilities Matrix
- 6.1.3. Resource Plan
- 6.1.4. Staff Tracking sheet
- 6.1.5. Material Tracking Sheet
- 6.1.6. Skills Inventory Sheet

6.2. Processes and Templates

- 6.2.1. GOJ Resources management Plan
- 6.2.2. Staff Tracking Template
- 6.2.3. Material Tracking Template
- 6.2.4. Skills Inventory Template

7. Communication Mgt

- 7.1.1. Contacts List
- 7.1.2. Success Stories
- 7.1.3. Lessons Learnt

7.2. Processes and Templates

- 7.2.1. GOJ Communication Management Plan
- 7.2.2. GOJ Project Naming Convention
- 7.2.3. Communication Plan Template
- 7.2.4. Status Report Template

7.3. Meeting Items

- 7.3.1. Project Review Meeting Minutes
- 7.3.2. Meeting Minutes
- 7.3.3. Meeting Agendas

7.4. Status Reports

7.5. Presentations

7.6. Correspondence

- 7.6.1. Project Announcement
- 7.6.2. Close Down Announcement
- 7.6.3. Project Review Invitations
- 7.6.4. Project Review Reports
- 7.6.5. Memos
- 7.6.6. Letters

8. Risk/Issues Mgt

8.1. Process and Templates

- 8.1.1. GOJ Risk Management Process
- 8.1.2. GOJ Issues Management Process

8.1.3. Risk ABCD Form Template
8.1.4. ABCD Risk Log Template
8.1.5. Risk ABCD Bubble Chart Template
8.1.6. Issue Form Template
8.1.7. Issues Log Template
8.2. Risks
8.2.1. Risks Plan
8.2.2. Risks Log
8.2.3. Risks Assessment/Handling Plans
8.3. Issues
8.3.1. Issues Log
8.3.2. Issues Forms
9. Procurement Mgt
9.1. Procurement requests documents
9.1.1. Scope of Work
9.1.2. RFP
9.2. Solicitation documents
9.2.1. Vendors List
9.2.2. Proposals
9.3. Selection Documents
9.3.1. Selection Criteria
9.3.2. Selection Results
9.4. Contract Administration
9.4.1. Project Contract
10. Deliverables
11. References
11.1. Customer Reference Documents

3.5 Needs Assessment

This section provides a high level needs assessment for the possibility of an automation tool for the PMO. The main question to be answered at for the needs assessment is: "Is there a current need to implement an automation tool for the PMO and if so what are the needs?" MoICT is currently building the PMO infrastructure and is defining the workflow process under which it will operate. The current workflow is currently pretty dynamic and will likely be changing over the short term are issues are ironed out. It is noted that this needs assessment is being performed early in the process of forming the PMO and will likely raise many issues that would

not be raised had the assessment been performed after the PMO was operational for a while. For example, if this analysis were to take place a year from now, it would focus more on problems that had surface over that time. Instead, this analysis attempts find general solutions and functions supporting anticipated issues and capabilities for the PMO.

3.5.1 Gap Analysis

The first step of the needs assessment is to perform a general gap analysis that will compare the actual current state of the PMO versus the desired or necessary situation of the PMO with an automation tool. This will also help identify additional desired functionality of an automation tool.

There are two parts to this Gap analysis:

1. Current situation: Determine and describe the current state of the operations of the PMO. This analysis examines organizational goals, climate, and internal and external constraints.

2. Desired situation: Identify the desired or necessary conditions for PMO success with the automation tool. Distinguish the actual needs from the perceived needs or wants. The difference, or the "gap", between the current and the necessary will identify the needs, purposes, and objectives of a desired automated system solution.

3.5.1.1 Current Situation

The PMO is just starting to form and become operational. EDS is developing a PM Kit to document the processes and procedures of the PMO. The workflow is still in a state of flux and is being modified as new lessons are being learned. The GoJ E-gov Portal project is the only major project currently under management of the PMO, however, it is anticipated that the volume of projects will start ramping up significantly over the next few months.

The current operational model for the PMO, as designed by EDS, is a template-driven process requiring the development of standard documents and reports through the life of the project. These formal procedures are documented in the PM Kit and PM Workbook. The exchange and reporting of project information through an exchange of email and the sharing of documents. These required documents are shared on a defined directory structure on a shared file server. Though communication happens mostly through Email, other informal methods of communication are expected. It is noted that the Email capability does not currently exist at all ministries.

Problems and Deficits

One of the main objectives of the PM Kit is to bring a structured project management methodology to Project Managers. Since these processes are template-driven, there is no automated mechanism that forces Project Managers to follow the procedures on a timely basis. The PMO held a Project Managers workshop on August 19. At this meeting, there was a lot of feedback from Project Managers that the reporting requirements may be too high a burden on them. There is a perception that unless there is an incentive, Project Managers will try to circumvent the report process. As a result, it is also anticipated that the reporting requirements that the Project Managers objected to will be modified.

Project Managers also do not reside at MoICT, but rather with the ministry for which the project is engaged. There is a natural incentive for the Project Manager to be responsive to their home ministry, but not so for the PMO. Standardization of the PM process should help the quality of project reporting. However, project visibility or other inducements would increase the chance that the quality and timeliness of reported information will be improve

Impending change

At the August 19 Project Managers workshop, there was some feedback from Project Managers that would indicate that the reporting feedback process will continue to evolve to a large extent over the short term. There was objection to the volume of information required and the desire to have this streamlined. The PMO may also want to put in processes that actually provide more benefit to the Project Managers and give them incentives to keep their reporting current and complete.

Managers for the PMO are still being hired and staffed. This alone will have an effect on how the PMO operates. This may have a large effect on the development of PMO requirements for an automation tool.

Opportunities

Taking advantage of new technologies can greatly improve the collaboration of information between Project Managers and the PMO. The current process relies heavily on manually process and updating. Automation tools should make project status and any relevant documents easily available to all concerned parties and will also allow management an overall dashboard-type view across projects. Finding current project status requires the user to hunt for documents on a file server (though there is a defined structure to make this easier).

Depending on the technology, there are opportunities to implement a system with a project management workflow based on ‘best practices’, built into the system. The upside is that the PMO can implement the automation and utilize these best practices right out-of-the-box. Another opportunity exists where an automation tool can be modeled around the already designed template-driven processes. This will allow flexibility in the way the PMO operates.

Strengths of Current System

The current processes provide a standard documented management process for running the PMO. There is a large advantage to providing a structured management methodology to Project Managers stationed in various ministries and various levels of skills and experiences. In a sense, this will make sure that everybody has agreed to similar language and standard of reporting. This will further ensure that information is provided to the PMO in a consistent fashion.

These processes are also documented so that everybody knows what all the required steps in the process are. When a Project Manager starts a project for the first time, he can be given a PM Kit and follow the instruction on what is required to manage the project.

3.5.1.2 Desired Situation

First and foremost, the desired situation would consist of technology that supports documented policies and procedures of the PMO. The desired automation would be specifically designed for collaborative reporting and provide secured document storage in an easy-to-use and easy-to-manage structure. The solution would be available across geographically dispersed ministries and the PMO (possibly over the web), with access from Project Managers based at ministries and managers based at the MoICT.

The package would support the delivery of the documentation, reporting, and functional requirements as listed above. The tool would easily make visible the current status of any project as well any issues, risks, etc. This is discussed in more detail below.

3.5.1.3 Analysis Needs and Priorities

An analysis of the above discussion has resulted in the compilation of the following summary level system feature needs. These are broken out into a high-level and low-level priority groups. In general, one would consider the High Priority needs to be requirements that would be expected to be addressed in the automation tool, whereas the Low Priority needs would be considered as nice-to-have items. These system feature needs, along with the functional requirements (outlined in section 3.4), should drive the overall selection of any automation tool dependent on the selected approach.

3.5.1.3.1 High Priority System Features

Digital Dashboard–Type Views

Management can have customized digital dashboards that can display a summary of information across projects. Managers can see how projects are progressing at a glance and drill down through problem areas in order to determine a course of action.

File and Document Management

Document and file management features create a central repository for all documentation related to projects. Shared documents can include all project documents listed above. Files of any type, from structured documents and spreadsheets to binary files for distribution, should be managed in a single easy-to-access location. It should provide hierarchical organization and a logical structure for all information throughout the lifecycle of the project. Document libraries should allow users to upload documents, assign templates to libraries, and custom properties to documents within libraries.

Document Versioning

Document changes, including metadata such as keywords, are tracked and assigned different version numbers for auditing. There should be a rollback capability that allows any document to be restored back to a previous version.

Issue Tracking

Users enter issues as they arise and follow them from concept to completion. Those experts best suited to deal with each of the issues are notified, so all participants stay up to date and involved. Should provide the following capabilities:

- Full multiple issue query with multiple fields, text, and date range
- Automatic change notification to issue stakeholders
- Metric and report generation
- Personalized issue pages
- Automatic assignment of issues to component owners

Roles-based Permissions

Role-based memberships allow administrators to assign different levels of permissions to project documents and reports based on the users' role to the project. It also allows administrators to customize the permissions within those roles.

Security

An automation tool should provide roles-based security to ensure that only users with appropriate access can see a given document. System should provide a strong level of basic security as well as the tools necessary to tailor the level of security as necessary. A flexible approach to application security should be provided on multiple levels, using the protocols applicable for the tool.

3.5.1.3.2 Lower Priority System Features

Search Engine

Provide the ability to search for text across all projects. This can ultimately be an invaluable capability as the automation tool can be used for knowledge management functionality for the PMO.

Document Discussions

Project Managers can utilize a discussion group feature to conduct inline discussions on documents and other Web pages without affecting the source document.

Document Check-in and Check-out

The automation tool could enable documents to be reserved by individual users for updating. Users can download the document from the central server and reserve the rights to update the document until they load it back to the server. Other users will have read-only access to the document before it was checked-out.

Web-based Project Environment

A nice feature to have is a tool that is available on an intranet through a Web browser. The Web-based project environment enables Project Managers to collaborate regardless of geographic location. This also eliminates the time and expense of purchasing, installing, configuring, and managing hardware. The system should be secure and available anytime from anywhere and setting up a collaborative workspace is easy and immediate.

4 Analysis

The first question to be answer for this analysis is whether the PMO Automation Tool is intended to be (1) a tool strictly for use within the PMO, (2) a tool for Project Managers or (3) a tool to be used between the PM and PMO. If the tool is for PMO only, then it doesn't make much sense to invest in an automation tool as the PMO is small, located in one place, and there is a small number of projects. The benefits of a tool for the first case would unlikely be worth the investment.

A tool intended for PMs only could be useful, however, the current PM Kit and Workbook provide standard processes, procedures, and templates designed to help manage projects. Further, MS-Project has already been identified as a standard project management tool for the PMs. It is unlikely that a new PM tool would add value to the current process and toolset.

Of the 3 above scenarios, only a tool that provides automation between the PM and PMO makes sense. The communication link between the PMs on the ground and managers in the PMO is the most vital link and automation that ensures timely, accurate, and consistent communication would provide large benefit. This is the only one of these three scenarios that should be considered for the investment of an automation tool.

The Program/Project Management System market is huge, varying in scope from package to package. There are likely hundreds of packages on the market that would provide some benefit to the PMO. Annex 3 provides a cursory inventory of PM packages that are available that were obtained from just one web source. In order to even begin narrowing the field down, some basic tactical decisions must be made to determine the overall direction to take.

An examination of the facts and analysis from the above sections (specifically: the gap analysis, the functional needs are requirements, the roles of the PM and PMO) had lead to the conclusion that there are 3 basic alternatives for determining to implement a PMO-PM automation tool. These 3 alternatives are:

1. Defer automation decision until PMO operations are mature
2. Implement Full-Service COTS Program Management System now
3. Implement Basic Project Collaboration System and customize as needed

There are varying degrees of cost and risk associated with each of the alternatives and the decision is mostly a strategic one. Each of these alternatives is discussed in detail below.

4.1 Alternative 1: Defer Automation Decision

A very strong argument can be made to not deploy an Automation Tool at this time. EDS has been developing processes and templates that are customized for the PMO operations. The PMO is just starting to organize and management its projects. Problems in the template-driven system have not been discovered or even had a chance to be resolved. In fact, the level of reporting from Project Managers to the PMO is still being reworked. Implementing a system at this point in time may not address any of the unknown problems that may arise, and in fact may introduce more complex problems into the process that can not be resolved. There is inherent risk in introducing a system at this point in the organizational development process.

At this time, it is difficult to measure the effectiveness of any automated system since it is still unclear what the key indicators are for the PMO. One can evaluate commercial systems that are available in the market, examine their capabilities, and determine some value for the individual benefits provide by each system. However, it is very difficult to determine an actual quantitative value that implementing a system will have when it is difficult to measure the effectiveness of the current processes. Further, trying to justify a system based on cost-savings and/or efficiencies is impossible since the current costs are unknown.

This choice is the lowest risk at this time. There is no impending event that would require the implementation of a system at this time. The risk is further reduced since deferring the decision to a later date will allow for a more informed decision in the future when more is known about the PMO processes.

4.2 Alternative 2: Full-Service COTS Program Management System

There are many Commercial-Off-The-Shelf Program Management Systems on the market that automate the basic functions outlined in this study. These systems are mature and have been developed for the sole purpose of a Program Management Office managing multiple projects. These systems are established user-bases and

have Program Management Best-Practices built in. These systems have evolved to cover the full spectrum of issues related to project management. In fact, some of these systems very closely match the substance of what EDS has already developed for the PMO, though the style of their template-driven approach will be different from the style built in the systems. The end-result of implementing one of these systems is a process that is somewhat similar to what has been built, but enforced and supported by a computer system.

The main advantage to implementing one of these packages for the PMO is that the system will force the PMO to operate under the built-in best-practices in the system. However, the incremental value of this aspect to the PMO is not so great since EDS has already developed a process incorporating best-practices. The main difference is that a system help manage the process rather than people. In addition, the PMO would not have much flexibility deviating their processes and procedures from what the COTS package would allow. It may require some project management capabilities occur out-side of the system.

Annex 4 provides summary capabilities of three packages that provide Program Management capabilities as described in this category. Note that their presence in this study does not represent an endorsement of one package over another, but rather a sample of the types of packages that could be utilized to automate the PMO. Further investigation of each of these packages reveals a great depth in expertise of general Program Management expertise incorporated in these systems. One can also map the features of these packages to functionality created by EDS for the current PMO process.

The cost of these systems includes the initial licensing costs, usually an annual maintenance fee, support costs, and hard-ware costs. Depending on the system, there may be a need for a system administrator, however, after initial set-up, some of these systems allow the Project Managers the ability to administer their own projects on the system.

This option does provide a hosted solution alternative for some packages. This would allow the PMO to have the capabilities without have to incur the expense of initial licensing, maintenance, and administration as the actual system resides on vendor's computers. This option would allow a low risk pilot project to determine the value of a package.

4.3 Alternative 3: Collaborative Portal Tool

A lower licensing cost option is the implementation of a collaborative management tool. As noted in the analysis above, one of the key objectives is to automate the communication of information between Project Managers and members of the PMO. An on-line collaborative tool allows all team members to post and report information as required. These systems are totally customizable to what the client needs and can be programmed to create additional functions. This option would provide a lot of flexibility to the PMO operation and could be used to automate only the processes that the PMO desires and can easily be incorporated into the tool.

There are many types of tools available to handle this type of functionality. An example of this type of tool is Microsoft Sharepoint Portal Server (See Annex 5 for detailed capabilities). The inclusion of MS-Sharepoint here is purely for example purposes and does represent an endorsement (although it is known that MS-Sharepoint has been installed at MoICT, it is not known it is licensed or a trial version). Sharepoint provides on-line collaboration capabilities like document storage and versioning as well as the capabilities to program customizable features. This satisfies one of main objectives outlined in this study. The flexibility of this type of tool would allow the capabilities of the automation tool to evolve with changes in the PMO process.

The downside to this approach is though the licensing costs are less than a full-service PMO system, there are less management capabilities provided out of the box. Implementing the system would require hiring a system administrator to maintain and configure the system (the system admin would set up each new project area for example). Further, the cost to provide customized features is not cheap, and many of the specific Program Management features outlined in this study would have to be custom build for the system. These tools do provide some simplistic feature to make this easier, for example, MS-Sharepoint allows the import/export of MS-Excel spreadsheets that could be used as project reporting templates.

The risk in this solution is that while it provides flexibility in its automation, the desired customized features may never be built and if they are, there is no guarantee that the developed modules will integrate well. The end result would be an investment that is not much better than the current template-driven process. The best case scenario is that the system is customized to incorporate the EDS process into the tool. However, since full-service systems contain similar best practices, the substance of the resulting tool would not be any better than implementing the pre-built solution out of the box.

Another option to this alternative is to utilize the collaborative capabilities in the Content Management System (CMS) of the E-gov Portal. The CMS can be configured to allow a shareable space for publishing project management information. The benefit of this option is that the CMS would already be licensed, installed and operational with a System Administrator already in place. It would take a low level of effort to configure the CMS for Project Management collaboration. The downside of this option is that the capabilities would not be any greater than what is available out of the box from a true collaboration tool. Further, there would be really no true Program Management capabilities and the ability to customize the CMS for that would be difficult. This end result of this low-cost approach is that while it would allow for the publishing of project related information, it does not provide program-level capabilities that could be available in a Full-Service package.

An additional option in this category is the possibility of using an open-source collaborative software development tool, such as SourceForge. These tools have become popular over the last few years as a result of the open-source software movement. Typically, open-source development involves programmer working collaboratively from programmers all over the world. These tools were developed to

maintain a central repository for source code, project status, versioning, etc. There are many parallels to the PMO requirements in these tools; however, because of the slant toward software development, they do miss many of the Program Management best practices from the Full-Service Packages described in Alternative 1. One of the benefits to this type of solution is that the tool can be licensed or hosted. The hosted option would allow for a low cost pilot test to determine if the solution is appropriate. The bottom line on this approach is that while this solution would likely help manage project level activity; it does not include many of the basic Program level capabilities that would be desired.

5 Recommendations

The following is a summary of each of the identified alternatives:

Alternative 1: Current Template-driven Process

Licensing Cost: $0

Development Cost: $0

Pro:

- Processes customized to GoJ
- Ultimate flexibility in modifying processes & procedures
- No commitment to technology
- Easy to modify to correct deficiencies
- Future automation decision based on PMO experience

Con:

- Harder to make status visible
- Communication more difficult, must be made manually
- Hard to enforce standards

Alternative 2: Full-Service Off-the-Shelf PMO Tool

Licensing Cost: $40,000 - $100,000 initial license

Development Cost: $0

Additional Cost: Hardware, Annual Maintenance and Possible System Administrator

Hosted Option: $2,500 - $4,000/month

Pro:

- PM Best Practices built into system
- Easy visibility of project status
- Automated communication paths
- Hosted options available for pilot testing

Con:

- Commitment to processes standardized by system
- Low Flexibility
- Functionality not in system may need to be handled outside of system
- Risk of failure could negatively impact ability of PMO to operate

Alternative 3: Customizable Off-the-Shelf Collaboration Tool

Licensing Cost: $20,000 - $40,000 initial license

Development Cost: $20,000 - $80,000

Additional Cost: Hardware, Annual Maintenance and Possible System Administrator

Pro:

- Customizable to fit requirements (can be built to suit around current processes)
- High visibility of project status
- Structured storage and versioning of documents

Con:

- Certain customization can take a large effort (high development costs)
- Low out-of-box project management capabilities (have to be developed)
- High cost of customized functions no better than those built in COTS package

At the current stage of development of the PMO it is difficult to justify the implementation of a PMO Automation Tool. Providing justification is problematic since the PMO has not discovered the problems with their processes and has yet to determine all indicators that are needed to successfully run the PMO operation. It would be most prudent to wait until the PMO operation has matured to the point where the problems and inefficiencies are known and PMO management has refined all their objectives based on history of performance. That would be the appropriate time to investigate possible system solutions.

The PMO may decide that they do not want to wait to decide on a PMO tool. Management may decide that the PMO operations should be based on an automated system for its operation. Making this type of decision at this time would be strictly a strategic decision, rather than an economic or efficiency-related decision that can't be justified since it's impossible to accurately measure the PMO operation since it's just starting. If it is determined that automating the PMO at this time is the strategy to take, the best option would be to choose the COTS pre-built Program Management System option. This option would allow the PMO to take advantage of the best-practices built into the system along with the related automation tools that support those procedures. Ultimately the cost would be in the same neighborhood as the Collaborative System (Alternative 3) after customization costs; however, there would be no wait to develop complete project management capability. Although the Collaborative System alternative could be built around the customized template-driven procedures, it is likely that the substance of the procedures built in the COTS package would be equal.

A caveat to this recommendation is the status of licensing MS-Sharepoint for the GoJ. There is a current implementation of MS-Sharepoint at MoICT and it is unclear whether this is a free license or a trial. If the license is free, there is no cost risk to creating and using a pilot to share documents. If it fails, the PMO can revert back to the current file sharing structure. If successful, the PMO can start evaluating the development of additional functions to be implemented into MS-Sharepoint. Further, this option would not preclude the implementation of Alternative 2 in the future. In essence, if there is little additional software investment cost and somebody has the time to tinker with a collaboration tool, then there is no reason to not investigate using a collaborative tool to support the PMO. However, the likelihood of free software and availability of resources make this option improbable.

6 Annex 1: PMO Key Roles

PMO Key Roles and Responsibilities

Head of PMO

- **Overall responsibilities for managing the PMO**
- **Assists Director of e-Gov in managing the e-Gov Program**
- **Maintains reporting status of the National e-Gov initiative portfolio of projects**
- **Liaises with clients and other ministries to obtain commitment of resources**
- **Maintains financial information for current year and out year costs of e-Gov projects**
- **Oversees the identification, linking and monitoring of risks and milestones of the National e-Government portfolio of initiatives**

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PMO Key Roles and Responsibilities
Head of Technology Services

- Monitors the implementation of e-Government technology
- Ensures that appropriate e-Government SLAs are implemented, monitored and maintained
- Monitors, records and maintains standards for e-Government and supporting infrastructure
- Owns the Programme Architecture Plan
- Institutes system develop lifecycle standards and guidance for use by e-Government Project Managers

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PMO Key Roles and Responsibilities
Business Case Manager

- Ensures that all business cases are produced in a consistent and effective manner to facilitate decision making
- Develops Business Cases for e-Gov initiatives in coordination with ministry project managers
- Develops and implements a business case/ prioritization framework, process and templates for new and enhanced e-Gov applications using various tools, such as Cost Benefit Analysis and Return of Investment
- Coordinates benefits capture for implemented initiatives

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PMO Key Roles and Responsibilities
Head of Change Management

- Ensures effective project management and initiative implementation through alignment of strategy, process, technology and people
- Ensures that BPR and change management is specified and carried out to PMO standards
- Monitors and assures optimum communication between PMO, field staff and clients
- Coordinates e-Gov awareness activities and awareness through MoICT and other ministries

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PMO Key Roles and Responsibilities
Quality, Risk and Communications Manager

- Ensures that all project documentation and deliverables conform to PMO and government standards
- Develops and implements an effective reporting style
- Defines and implement a risk management and reporting process for the PMO that includes associated risks of e-Government Projects
- Defines and implement a Quality Management and reporting process for the PMO including quality elements associated with e-Government Projects
- Prepare and maintain a communication strategy and plan within the PMO, associated Project Managers and PMO staff

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PMO Key Roles and Responsibilities
Projects Coordinator

- Provides program and project management expertise, guidance and mentoring for Project Managers
- Ensures that individual projects are delivered in compliance with PMO standards and norms
- Reviews project plans against principles and standards of the PMO
- Maintains the relationships of e-Gov Project Managers (and their teams) with PMO personnel
- Coordinates the use of PMO SMEs with e-Gov Project Managers

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Source: Slide from PM Follow-Workshop by EDS, August 2002

7 Annex 2: Project Manager Reporting Tasks

Project Managers Reporting Progress to PMO

Status Reporting (Weekly)

- Project Aggregate Status (Target in jeopardy, Behind Target, On Target, Complete)
  - Milestones and deliverables
  - Target Date
  - Comment (Target in jeopardy, Behind Target, On Target, Complete)
- Current issues/concerns
- Changes in identified risks (If…then)
- Scope Changes
- Key Events in Pipeline
- Updated Integrated Project Plan

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Source: Slide from PM Follow-Workshop by EDS, August 2002

8 Annex 3: Program/Project Management Packages

8.1 Web-based Project Management Tools

Source: The Project Management Center - www.Infogoal.com

- AbakSoftware : Web base project management software
- AbleNet Solutions : Software products: Team Suite, Projects Portal and Action Forum
- Accerio Software : Web based project management and collaboration solutions
- Alacrity Results Management : Project portfolio management
- Alexcorp : Alexsys Team 2 Multiuser Team Management Software
- Axista : Xcolla - Web Based, Enterprise Collaborative Project Management
- Andrew Ballantine Technology Ltd : Project management software, services and consultaning
- Artemis : Project planning, scheduling, and time reporting software
- Asta Development Corporation Ltd : Power Project software product (UK based)
- Astarte Limited : PlanWise Web based project management
- Bentley Engineering : ProjectBank and ProjectWise web based project management and collaboration system
- BizWall : Web based project management
- BPMS : Web based project management
- Circadium Technology : ProjectCatalyst - web based project management
- Clear Reason : Fluid Enterprise - web based project workspace for managing projects across the enterprise
- CommonOffice.com : Web-based project management and collaboration
- Company 39 : Project Management Solutions
- Complete Response : Web based project management, customer service, and collaboration
- cprojects.com : Web based project management for construction
- Copernican SystemWorks, Inc. : Custom software for workflow, knowledge management and project management
- Ontrack Engineering : CostTrack Software
- Critical Path Technical Services, Inc. : ProjectExecutive - Web based companion to MS Project
- D4Software : D4Software Projects
- Deskshare : ProjectDesk Web Based Project Management and Collaboration
- Devcycle : Web based project management and product development
- eLabor : Enterprise Project Management
- EPIWare : Web based project management and collaboration - free for up to 5 projects
- ePortfolioTrack : Internet hosted project tracking
- eProject.com : Web based team collaboration software
- eRoom Technologies : Collaboration and Portal Software
- evolutionB : Synergy Collaborative Solutions and Development Environment
- Finley Systems, Inc. : Web based project management
- FrameTech : ActiveProject® web based project management and collaboration software
- Genisys Informations Systems, Inc. : PM Software Products and Consulting Services
- GigaPlan : Secure hosted collaboration software

- ICEAS : Web-based Customizable Project Management Integrated with In-house Software
- Idea Weavers : Web based project management software
- IMS Corp : Project Exchange Enterprise Toolkit
- Infinite Series Group : InfiniteProject Project Management
- InventX, Inc. : ePM - Enterprise Project Management (Web based pure Java)
- INOVIE Software : Team Portal
- iPlan Enterprise : Integrated Project and Quality Management Software
- iTeamwork : Web based team project management
- Journyx : Web based Project Management Software
- Management Controls, Inc. : TrackSoftware
- MESA Systems Guild : Web based project management (Security prevents entry)
- Metier Ltd : Project Management Software
- Micro-Frame Technologies, Inc : Project Management software solutions and consulting services (part of Business Engine)
- MindManuals.com : Unique Visual project planning Resources
- MJI Consulting : Project management, document management and team collaboration. Supplied by UK based company MJI Consulting.
- MKS : Project Integrity integrates with MS Project
- Monitor Management Control Systems Limited : MPower web based project management
- Netmosphere Inc. : Java applications help workgroups plan, analyze, manage, track, and communicate business projects (Acquired by Critical Path)
- NIKU : Enterprise and Project Management Solutions (PSA)
- Novient : Web based project management
- OmniTracker : Web based project management and collaboration
- One2team : Web based project management and execution
- onproject.com : Web based project management and collaboration
- Open Air : Web based project management and collaboration
- OurProject.Com : Web Based Project Management
- Pacific Edge : Project Office eXpress 3.0 is a Web-based, thin client application
- Panorama Software Corporation : Web based proejct management
- Planisware/Selfware : OPX2 project management software
- planonthenet.com : Free web based project management functions
- PlanView, Inc : Resource-driven project and resource management software
- PointCross : Web based project management
- Princeton Softech : Process Director
- Primavera Systems, Inc : Project management software for large and small projects
- Project Arena : Project management for professional services automation
- Project Assistants, Inc. : Project management software
- project.net : Project collaboration software
- ProjectByNet : Web based project and collaboration software
- ProjectShare.com : Web-based project management and collaboration software
- Projectplace : A user friendly service designed to make your project communication more efficient. Everything you need to share work material, to communicate and to co-ordinate projects found in a single location.
- Providence Systems Group : Web based project management solution integrates with MS Project 2000
- QuickArrow, Inc. : Project management software

- Rational Concepts, Inc. : Proj-Net - web-based (ASP) PM Software
- Replicon Inc. : Project management / time and attendance software
- Same Page : Virtual Team Collaboration
- SAS Institute : Web based collaboration
- Scitor's Business Solutions Group : Project and Process Management tools
- SDRC : Collaborative Product Management Solutions
- SME Corporation : Web based solutions for the enterprise
- Softwise : Web based project management
- Solution Corp : Web based project management
- SpeeDEV : Web-based Software Lifecycle Management System
- Standpipe Studios, LLC : Vertabase - web based project management
- Synchrono, Inc. : Constraints based scheduling for manufacturing and distribution
- Systemcorp : Enterprise Project Management software solutions
- TaskLand.com : Project Management available over the Web
- Teamworks : Includes time & billing, scheduling, staff directory, contact management, projects, tasks, news, announcements, procedures, policies, memos, HR information, files, company forms and much more all from a personalized Home Page.
- TekReach PM, Inc. : Conductra Project Management
- Tufan : Collaborative Project Management for Software Development Project Life Cycle
- ViaNovus : PARAGON Project Management System
- Virtual Communication Services : Web Based Project Management and Collaboration
- Vite : Project management and work process improvement
- vProject : Web based project Management
- Yellow Zone : YZManager Web Based Project Management

9 Annex 4: Three Sample Full-Service Program Management Packages

9.1 SME Corporation: Project Invision

Source: www.SMECorporation.com

Project InVision® transforms the way corporations approach services automation, offering comprehensive Web-based solutions for:

- Portfolio Analysis - to align work requests, projects, workforce, and budgets to corporate initiatives
- Program and Project Management – to increase operational efficiencies through improved workflows, collaboration, and knowledge sharing between virtual teams
- Production and Customer Support – to maximize the investment in IT assets through on-going support and maintenance

Project InVision enables companies to establish a consistent program management environment and can be easily configured by a Program Management Office (PMO) to integrate existing corporate methodologies, terminology and procedures for dissemination throughout the organization. The Web-based architecture allows users to access project-related data, documents, or Microsoft Project® schedules across a corporate intranet or the Internet, while enabling geographically dispersed teams to collaborate and share knowledge.

Portfolio Analysis

- Reporting to analyze workforce optimization, budgets, project requests
- View all projects, top-level status and key deliverables in your organization
- Make informed decisions regarding resource availability, usage and deployment
- Maintain all resource information in a single repository
- Make informed decisions regarding resource availability, usage and deployment
- Identify over-utilized and under-utilized individuals, departments and skill groups

Program and Project Management

Scheduling

- Utilize Project InVision or Microsoft Project to build schedules

	• Build schedules in Microsoft Project and check them directly into the Project InVision database • View tasks and milestones instantly via the browser
Document Management	• Maintain all files related to a project in a central repository • Create documents in the application of your choice and check them directly into the Project InVision database • Check out or review documents in any file format with a single click
Defect and Issue Tracking	• Track defects and issues from discovery to resolution • Document project deficiencies and flaws
Project Journal	• Document notes and questions about a project • Facilitate discussion and collaboration among team members
Time Tracking	• Review your task assignments across all projects • Maintain and submit weekly time sheets
Access to information	• Review critical project information or collaborate with other team members, using your Web browser • Quickly download project schedules and documentations

Production and Customer Support

- Track defects and issues from discovery to resolution
- Initiate new project requests to resolve issues, defects
- Document project deficiencies and flaws

Manage Workflow and Methodologies

- Enable your own methodologies to ensure consistent work patterns and controls
- Integrate templates to promote consistency in project documentation

9.2 Welcom OpenPlan

Source: www.Welcom.com

Open Plan is the most technically advanced project management software on the market and offers a comprehensive range of integrated features to help organizations manage and complete multiple projects on time and within budget.

➢ Program Management
- Resource pools sharable across multiple projects
- Code and calendar definitions sharable across multiple projects
- Resource leveling across multiple projects
- Project priority assignments
  Results returnable to project or subproject level
- Relationships definable between activities in different projects

➢ Resource Management
- Resource scheduling and leveling for time-limited or resource-limited schedules
- Skill-based resource scheduling
- Selective assignment by resource pool
- Split, stretch, and reprofile activities
- Support for user-defined priority rules, such as calculating remaining float

➢ Project Planning
- Support for program/project hierarchies
- Resource breakdown structures that facilitate resource organization by department, pool, or skill
- Up to 90 user-defined code structures per project
- Unlimited hierarchical calendars per project

➢ Process Management
- Ability to launch both Open Plan processes and external Windows® applications
- Sixty-five templates based on PMI's® professional standards
- Templates for managing scope, time, cost, risk, quality, contracts, resources, and communication
- Customizable process templates

- Histogram, barchart, network, breakdown structure, and outline views and reports

➢ Views and Reporting
- Histogram, barchart, network, breakdown structure, and outline views and reports
- User-defined network boxes
- 36 box styles in network view
- Automatic placement, zoning, and time-phasing in network view
- User-defined bar types and styles with multiple bars allowed for each activity
- Selective hierarchy rollup
- Interactive building of hierarchies with drag-and-drop or clipboard options
- Three zoom options in network view

➢ Progress
- Progressing by actual dates, expected finish, elapsed duration, remaining duration, percent complete, and stat using of resources
- Options for automatic calculation of resource progress and actual costs

➢ Risk Management
- Mean and standard deviations for early dates, late dates, and float
- Detailed results stored for key activities
- Probabilities entered just for those activities with uncertainty
- Optimistic, pessimistic, and most likely durations (three point estimates) for any or all activities
- Normal, beta, triangular, and uniform curve distribution types
- Criticality index calculation for each activity
- Histograms, barchart, and spreadsheet risk views

➢ Customization
- Extensive customization via scripting languages such as Visual Basic for Applications and Visual Basic or from mainstream development languages like C++

- Access to core processes and dialogs as well as viewing and updating of data
- Acts as an OLE 2.0 Automation server
- Many options for graphical customization

9.3 Primavera Team Play

Source: www.Primavera.com

Features and Specifications

Team Members and Project Participants work together with a customized, up-to-the-minute list of detailed assignments. By simply using a web browser, members can record time spent on projects and time remaining to complete their tasks, alert Project Managers to issues and communicate new requirements.

Team Leaders are empowered with a straightforward, easy-to-use tool. Since project management is only a portion of their job, they need tools that enable them to perform their duties without requiring them to learn to use the project management software. With simple views tailored for them, team leaders can quickly initiate new projects by using established best practices, defined deliverables and planned timelines. The project dashboard notifies the project team lead of critical activities, milestones and pending activities that are coming due within the month, week or day.

Functional and Resource Managers can plan, allocate and update resources without becoming a Project Manager. They have the information they need to ensure the right people are working on the right projects. Primavera TeamPlay helps managers clearly identify over- or under-allocated resources, determine if resource allocation is in alignment with strategic objectives and forecast future resource requirements.

Executives and Project Stakeholders are informed about the health of projects using Executive Dashboards. Project stakeholders can select and balance portfolios and projects. A customized portal view of mission-critical projects enables them to quickly monitor performance, statistics and status, obtain project information in varying degrees of detail to make critical conclusions.

Full-time and Professional Project Managers and Portfolio Managers have the tools they need to ensure project success - advanced precision scheduling, resource modeling and leveling and

critical path analysis. From summaries by cost account and work breakdown structures to proactive control of project deadlines, issues and risks, Project Managers can rely on Primavera TeamPlay to plan, budget, monitor and control projects with efficiency and foresight.

10 Annex 5: Sample Collaborative Management Tools

10.1 Microsoft Sharepoint Portal Server

Source: www.MicroSoft.com

Product Overview

SharePoint Portal Server is the flexible portal solution that lets you find, share, and publish information easily. With SharePoint Portal Server, you are able to utilize existing information effectively, and to capture information in new ways that make sense for your business. In addition, you can rapidly deploy an out-of-the-box portal site and easily use Web-Parts technology to customize a Web-based view of your organization.

Customized Portal Solution

A portal needs to be easy to set up, and for maximum benefit needs to be tailored to an organization's specific needs. With SharePoint Portal Server, you have the ability to quickly deploy an out-of-the-box portal solution that facilitates finding, creating, and sharing all of your mission-critical data from a browser-based interface. And because the SharePoint Portal is comprised fully of Web Parts, it can be easily customized for your business needs. With Web Part technology, you can also customize this interface, managing common resources, such as your contacts, calendars, and messages.

Customers can also extend SharePoint Portal Server and add additional Web application functionality. SharePoint Portal Server is designed around industry and Internet standards, such as OLE DB, Microsoft ActiveX® Data Objects (ADO), Extensible Markup Language (XML), and HTTP, making it easy for developers familiar with these standards. Due to this support of standards, the use of tools like Microsoft Visual Studio® allows you to integrate Active Server Pages (ASP) functionality into the portal.

Integrated Document Management

Everyone works with documents, but not everyone has the ability to use technology to structure how they work with their colleagues on these documents. The process from document creation through intranet publishing can be a string of disjointed actions, unconnected with business processes. SharePoint Portal Server includes features like document locking, versioning, and publishing and makes these features accessible to the average user. It delivers easy-to-use, document-management features that are integrated with the tools and applications that are used to create and manage documents, with Microsoft Windows® Explorer and Microsoft Office 2000 applications like Microsoft Word, Microsoft Excel, and Microsoft PowerPoint®.

Using SharePoint Portal Server, you can also save and check documents into the document store, capturing business-relevant metadata in Document Profile forms. You can also tailor forms to your organization. Tracking changes though multiple drafts as a document is edited, reviewed, and approved is accomplished using

integrated approval routing. This occurs prior to publishing for public viewing on the intranet dashboard site. You can also roll back to a previous version of a document. Look for features like Document Collaboration, Profiling, Lifecycle Management, and Web-based document management through a browser.

No matter the size of their organization, customers are looking for better, more efficient ways to share information within their organization and with outside key suppliers, partners, and clients. Microsoft SharePoint presents a set of two new technologies from Microsoft that were developed to facilitate information sharing both within organizations and over the Internet, SharePoint Portal Server 2001 and SharePoint Team Services. The SharePoint technologies were developed as a direct result of customer feedback and research into information sharing practices within organizations. The research clearly demonstrated that no one solution could address the information-sharing needs of an entire organization; small and ad hoc teams share information in very different ways than do large teams.

- Small or ad hoc workgroups need informal means to work together on group deliverables, share documents, and communicate status with one another. These groups need to share information easily and effortlessly and SharePoint Team Services–based Web sites allow them to do that.
- Large workgroups with structured processes need greater management over their information. They require features like formal publishing processes and the ability to search for and aggregate content from multiple data stores and file formats. For this scenario, SharePoint Portal Server 2001 is recommended.

When organizations offer SharePoint Team Services and SharePoint Portal Server 2001, they can address the information-sharing challenges for both the large and small groups within their enterprise. Together, the SharePoint technologies give users the ability to organize information, readily access that information, manage documents, and enable efficient collaboration—all in a familiar, browser-based and Microsoft Office–integrated environment.

10.2 SourceForge

Source: www.SourceForge.Net

What is SourceForge.net?

SourceForge.net is the world's largest Open Source software development web site, providing free hosting to tens of thousands of projects. The mission of SourceForge.net is to enrich the Open Source community by providing a centralized place for Open Source developers to control and manage Open Source software development. To fulfill this mission goal, we offer a variety of services to projects we host, and to the Open Source community.

Open Source software

SourceForge.net provides free hosting to Open Source software development projects. The concept of 'Open Source' promotes the benefits of collaborative development by ensuring that potential end-users are able to obtain and use software, and that the software may be improved and expanded to meet the needs of its users. Collaboration within the Open Source community (developers and end-users) promotes a higher standard of quality, and helps to ensure the long-term viability of both data and applications. Additional information regarding the Open Source concept may be found on the Open Source Initiative (OSI) web site.

Open Source Development Network (OSDN)

SourceForge.net is owned by Open Source Development Network, Inc. ("OSDN").

OSDN, the Open Source Development Network, is the leading news, collaboration and distribution community for IT and Open Source development, implementation and innovation. Each month, more than 5 million IT professionals, developers and systems administrators visit OSDN destinations -- delivering more than 110 million page views per month. OSDN sites offer IT news, development tools, distribution and discussion channels, cutting-edge editorial, and ongoing education and evangelism among the IT and Open Source community.

In addition to SourceForge.net, the OSDN family also includes Slashdot ("News for Nerds. Stuff that matters.") and Freshmeat.net ("the Web's largest index of Unix and cross-platform software, themes and Palm OS software"). OSDN is a wholly owned subsidiary of VA Software Corporation.

Additional information

The SourceForge.net site runs the SourceForge collaborative software development platform, available for corporate use from VA Software Corporation. The SourceForge software platform has allowed SourceForge.net to provide a scalable solution to meet the needs of the development teams within the diverse Open Source community, through its development and project management tools, and integrated support management capabilities.

Additional information regarding the SourceForge.net site and its services may be found throughout the SourceForge.net web site, and within the SourceForge.net Site Documentation collection. Further inquiries may be directed to the SourceForge.net staff team by submitting a support request.

Where developers collaborate and help each other develop better software, faster.

SourceForge.net has created areas for top-tier Open Source developers to congregate, get information, contribute code and collaborate on a particular technical topic. These areas are called Foundries.

A Foundry is a targeted software development Community built around a specific technology focus. It's where developers share expertise and news, get and give advice, and generally help each other develop better software, faster.

Some key features of Foundries:

- Contain news and original content that pertain to the technology focus of the Foundry
- Newsletters
- Searchable mailing list archive to see past discussions and research information
- Software library
- Foundry Guides who are leaders in their respective fields and chart the course of the Foundry and the information within it